THE Compleat Measurer OR, A New and Exact way OF MENSURATION,

By which may be Measured both *Superficies* and *Solids*, in a more plain and easy way, than ever yet extant.

WHEREBY,

You may find out the Contents of all *Superficies* and *Solids* in whole Numbers and Fractions by the help of Multiplication without Division.

By

THOMAS HAMMOND,

A Well-wisher to a *Bricklayer*.

Licensed, *May* 25*th*.
Roger L'Estrange.

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BODLEIANA
BIBLIOTHECA

To his honoured friends, the Master and Wardens of the Bricklayers Company, LONDON.

I Humbly present to your view, this small Tract concerning Measuring; Wherein you may see something new, or differing from the accustomed Road, and present practice of Artificers;

yet I judge you will not find it a Deviation, or Wandring, but the the shortest way to your Journey's end. High-wayes and beaten Roads commonly cause perambulation, by reason of many oblique or crooked Windings and Turnings; whereas a Foot-path (or private way) may lead more directly to the place intended.

I do not discommend the inventions of our Learned and Ingenious Ancestors, whose indefatigable pains and laborious Studies in the Mathematicks are praise-worthy; and to those Writings I acknowledge my self Beholden, yet do I humbly commend unto your Judicious perusal this ensuing Treatise, as the most plain and easy, for mean capacities to understand: shewing a method so quick and ready, that I doubt not, but upon

due trial you will find it will ſave you much pains, time, and trouble, (being wrought by way of Decimals) Not by uſual Decimal Arithmetick, (viz.) Having a Foot-Rule *(divided into ten equal parts, and each of thoſe parts ſubdivided into ten parts) to meaſure withal in* Rods, *and then to caſt it up according to the Decimal way, and afterwards you muſt divide it to bring it into* Rods; *Whereas this new way of working is done at one Operation.*

Take a demonſtration of its Facility and Brevity by one Example, comparing the Common-Rod *with the new One uſed in this Book. The* Common-Rod *contains* 16 Feet 6 Inches; *but in this* Rod 16 Foot, 16 Inches *is divided into* 10 *equal parts.*

Suppoſe a Wall contains 33 *Feet*

in

in height, and 33 *Feet in length, is it not better to say* 20 *times* 20 *is* 400 *and then cut off the two Ciphers, thus,* 4|00 *to shew the Rods, then Multiply* 33 *by* 33 *and then to Divide the Product by* 272 *Foot, thus.*

33
33

99
99

1089
---

z 1
1089 (4
272

In the Examples given in page 24 *and* page 42, *which have some Errors, wherein it was intended that having only* Addition, *by the Table of* Multiplication, *to find the Contents of*

of any Superfices that is under a 100 Foot *one way, and* 50 *the other, Suppose a Superfices be* 9 Foot, 9 Inches, *and* 7 Parts *one way, and* 8 Foot, 5 Inches, *or* 50 Parts, *the other, set it with a Cross thus* 9 7 X 8 50. *then look on the head of the Table for* 9, *and in the first Column for* 8, *and where they meet at the right Angles is* 72, *then add* 4 Ciphers *to bring it into* Parts, *thus,* 720000 *because they are* Feet, *then look on the head of the Table for* 50 *and on the side for* 9 *and the* Product *is* 450, *Set it with* 2 Ciphers, *because they are* Feet *one way, and* Parts *the other, thus.* 720000

45000

Then look for 97 *by* 8 *which is* 776 *set it, thus,* 77600.

Now

Now if you will have the Fractions in the corner, which is not ½ *a Foot, then you must look for* 97 *by* 50, *which is* 4850 *then set your Product in the place of Parts, because they are all Parts, and your Work will stand thus.*

7200000
45000
77600
4850

F.	I.	P.
84	14	50

If the Work be only Feet, *and* Inches, *then you must add only* 2 Ciphers, *to bring it into* Inches, *then to the rest of your Work add* 1 Cipher *as you did in the other Example* 2, *and the Work will stand thus.*

7200
4500
7760
4485

Ex-

Examples might be given of things more intricate, but theſe may ſuffice to ſhew the difference in working by the two Examples before mentioned: which will be the ſame in proportion, whether the Operation be in Rods, Squares, Yards, Feet, Inches, *&c.*

I have adventured (for publick good) to expoſe this ſmall mite (of a new Coin) to publick View and Trial, although I know it will meet with many Critical Cenſurers, which if it prove not currant (according to my premiſed confidence, and hold not due Weight with the ſtandard of right Reaſon; I ſhall then patiently ſubmit to the laſh of your Reproof: but if it ſhall find acceptance with You, and become uſeful to you; then have I my deſired end. I preſent this unto you, as the man did, which had

had nothing to present to his Prince but a handful of water. And so (at present) shall conclude, committing you all to God, who is the true Fountain of perfect Number, and who wrought all his works in the World's Creation, by Number, Weight, and Measure. To whom be ascribed all Praise and Glory for ever. Amen.

THOMAS HAMMOND,

A Wel-wisher to a

BRICKLAYER.

THE EPISTLE
To the
READER,

COurteous Reader, considering that all Creatures are obliged to serve their generation in their places, therefore I thought it good to expose this small Talent to Publick view, although I have not been so Ingenious as to augment it, yet not with the sluggard to hide it, neither is it hid with dubious and intricate Words. But in the plainest way, that is, I think, a thing Incumbent on all Authors; for if they do not

not, how shall the Unlearned be informed, I confess I cannot present this unto you without an *Errata*, which is crept in, as it doth in most or all our Actions, yet I hope you will find no grand one: some may say, that they can Measure as well the ordinary way, which I do not deny, but if they are put to exactness, then I think there is no reasonable Man, but will conclude with me, that this way is the best to work whole Numbers and Fractions, except they will blow out the light of Reason: But they may say, that they do not Measure Cloath of Gold or Silver, therefore there needs no such exactness, this I grant, but they may help themselves in this way as well as in the other, some may think this way of girting Timber to be erro-

neous

neous in *page* 39. But if they observe the Figure in *page* 91. which is approv'd by all Mathematicians, I say, if they bring the accustomed way, and this way to that Standard they will see which comes truest to that Area, as if you girt a piece of of Timber 88 Inches about and divide that by 1 and Multiply the Quotient by 2 for the square-side which is 24 Inches and $\frac{4}{7}$ of 88 Inches, which multiplied by it self gives 567 Inches, almost 40 Inches less, than that Area in *page* 91. Now if they according to the accustomed way divide this 88 Inches by 4 for the square-side and it is 22 Inches, multiply that by it selfe and the Product is 484, that is 132 Inches less, than that Area in *page* 91.

Some may think, that I should have given more Examples concerning

cerning *Brick-work*, but what is shewed in other superfices is the same with this; for it is all one Work, the Rod thus divided, and as for the dividing of the Rod, every Man may do what he pleases, but the dividing of the whole Rod is the best way, and the Fractions better found, in *page* 49, *line* 18, it is not shewn how to turn Shillings into Pounds, so to do, multiply the number of Shillings by the number of Rods, by adding one Cipher, thus, 6000 then divide the Product by 20, set the Cipher under the last Figure or Cipher, towards the right hand, and then divide by 2 thus $\frac{600}{20}$ then see how many times 2 you can have in 6, which is 3, then because there is no more Figures, therefore take the 2 Ciphers that is between the 2 and the Cipher

pher and add them to the 3 thus, 300, now if it happen that they are all Figures set it thus 340 (17 and divide as before, 220 there is 17 Pound 9 Shillings.

A general rule in all Menfuration, bring all your Dimenfions to the leaft Denominations that you intend to work by, by adding Ciphers becaufe they are in fuch likenefs, that that ftands for Feet, or Inches, or parts, thus, 25 Feet by 5 Inches, or 25 Inches by 5 Parts: Now if you intend to work by Inches add one Cipher thus, 250 50 Now they are all Inches if you work by Parts, fet it down thus, 2500 100 Now they are all Parts, this do becaufe of Miftakes.

So

So all that I desire is that Reason may sit Umpire and you will oblige him who is willing to serve you, in what he can.

THOMAS HAMMOND.

ERATA.

PAge. 24 line 9 for 955 read 323 p. 27. line 21 for larger read lesser, p. 91. the Figure turned, page 93 for 11 read 16, page 95 line 22 for 19 read one farthing.

THE DESCRIPTION OF THE Foot-Rule:

BEING
A New way of Menſuration,
More Exact, &c.

Teaching,
How to Meaſure *Board*, *Glaſs*, *Tiling*, *Timber*, &c.

FOR the better applying of Foot Meaſures to the Rules of *Arithmetick*, Divide the ordinary Foot-Rule into 10 equal parts, which may be called *Inches*; (though they contain more than the ordinary Inch) then let thoſe Inches be ſubdivided into 10 equal parts again. So that One *Foot* will contain 10 *Inches*, or 100 *parts of an Inch*, in Line-Meaſure.

CHAP. I.

The Foot thus divided applyed to the Rule of NUMERATION *in a demonstrative way.*

THis Foot-Rule may in some kind be said to run Paralel with the Rule of *Numeration* in Arithmetick; for as that riseth by an equal Graduation, or Progress by 1, 10, 100. &c. So doth this from 1 Part to 10 in the Inch, and to 100 in the Foot: so that as Parts are to Inches, so Inches are to Feet: therefore in setting down a Number in this kind (in Line-Measure) you must not make several distinct places or Divisions for the several denominations; for Dividing the Foot in this way, saves that labour, therefore if you would set down 4 Foot, 3 Inches, and 5 Parts, set it down, only thus, 435. Now setting it down thus, it is either 4 Foot, 3 Inches, and 5 Parts; or according to the common way of Numbering, four Hundred, thirty five Parts, reckoning by the division or parts of an Inch.

If there be more Figures than one in the Feet, you must still keep the same Order in setting them down, because two places will serve for Parts and Inches, and what Figures are more toward the left Hand are for the

Feet,

Feet, for in this way of dividing the Foot-Rule, it cannot be in (Line-Measure) that there will happen above one single Digit, or Figure; for higher parts, or Inches, as in the common Rule in Inches it doth, there being 12 Inches in the Foot; so that it is common to set 10 or 11 Inches down in the place of inches; but in this new way, there can be but 9, one Inch less than will make a Foot: if it be as was said before, in Line-Measure; because in the measure of Superficies and Solids it will be otherwayes, as I shall shew in it's proper place. If you will set down 46 Foot, 4 Inches, and 8 parts, set it down thus, 4648. If 538 Foot, 7 Inches, and 3 Parts set it, thus, 53873. If 8275 Foot, 9 Inches and 3 Parts, set it thus, 827593. And so if the Sum rise to never so great a number, keep the same method, or order in Line-Measure, because this Foot-Rule is made to agree with the Rules of *Numeration* in *Arithmetick*, and it may be either read by the several Denominations of Feet, Inches, and Parts, or else all Parts; reckoning by the common way of *Numeration*.

Thus much may suffice concerning the description of the Rule, and setting down the Contents of any thing in Line-Measure.

CHAP. 2.

Of Addition,

ADdition of this kind of Measure, will be the easiest of any kind, for it is set as Simple Addition, without observing distinct places for the several Denominations, therefore if you would add 4 Foot, 8 Inches, and 6 Parts; and 3 Foot, 5 Inches, and 4 Parts together, set it thus,

	486
	354
	840

Now before I come to the measuring of Superficies and Solids, it will be necessary to shew the Contents of the *Foot-Measure*, in such things; therefore consider, as the Foot contains 10 Inches, and every Inch 10 Parts in the Line. So in SUPERFICIAL MEASURE a Foot contains 100 Inches, and every Inch 100 Parts; and in CUBICAL MEASURE a Foot contains 1000 Inches, and every Inch 1000 Parts, as you may see in the following Examples,

In Line-Measure,
- Foot 1
- Inches 12
- Parts 100

In Superficies,
- Foot 1
- Inches 100
- Parts 10000

In Cubical or Solid measure
- Foot 1
- Inches 1000
- Parts 1000000

So for Inches in Line-Measure,

Line-Measure
- Inch 1
- Parts 10

In Superficies
- Inch 1
- Parts 100

In Solids
- Inch 1
- Parts 1000

CHAP. 3.

How to expreſs Superficial *or* Flat *Numbers.*

YOU may ſee as was ſaid before in a Foot Superficies there is contained 100 Inches, and in every Inch 100 Parts; for the Foot being divided into 10 Inches in Line-Meaſure, that being multiplied by 10, it produceth 100 Inches in Superficial Meaſure; and ſo likewiſe for the parts in an Inch, there being 10, that multiplied by 10, the Product will be the ſame 100 Parts: therefore in the ſetting down this, it will differ from Line-Meaſure, in that there may be two Places, or Figures to expreſs the Inches; and ſo likewiſe for the parts of an Inch; therefore when it happens ſo, you muſt ſet a Letter or Period over the Figures, to declare or ſhew that they are *Feet*, *Inches*, or parts of an *Inch*. thus,

If you would ſet down 49 Feet, 16 Inches, and 12 parts, ſet it, thus,

F. In. P.

491612 or thus, 49 16 12 with a Letter or Period over that Figure which terminates or ends, the Denomination of either Feet, Inches, or Parts. If a thing fall out to be only Feet, as 16 Foot and 3 Foot, ſet it, thus,

P
16 with an F over it, to shew they are all
3
Feet, and if 16 Inches, and 3 Inches, set it with *In.* over it, thus,

In.
16
3

if all parts, set it with a P over it, thus;

P
17
3

because else there may be mistakes, seeing the proportion is so.

CHAP. 4.

How to express or set down Cubical *or* Solid *Numbers,*

YOU must consider that in a Foot Solid or Cubical; there is contained 1000 Inches, and in an Inch 1000 Parts, so that in the Inch, or parts of an Inch, there may be three Figures to express the Inches, or parts of an Inch. To distinguish which you must

do, as is ſaid before in the ſetting down of *Superficies* ſet a Letter, or Period over thoſe Figures which terminates, or ends the Denominations of Feet, Inches, and parts of an Inch, as this Example doth demonſtrate, or ſhew. 576 Foot, 493 Inches, 324 Parts, ſet it, thus,

F. In. P.

576493324 or thus, 576493324

CHAP. 5.

Of Multiplication.

WHen you are to multiply a number by 10 you may only add a Cipher to it, and it is done; as if you were to Multiply 24 by 10, ſet it down with a Cipher, thus, 240. If you are to Multiply by 100, ſet down the ſumme, and add two Ciphers, thus, 2400 If by 1000 add three Ciphers, thus, 24000. If by 10000 add four thus, 240000, and ſo on

CHAP. 6,

Of Diviſion.

IF you are to Divide by 10 make a Line with the Pen, cutting off the laſt Figure towards your Right hand thus, 176 Divided by 10 is 17/6. If you Divide by 100 cut off two Figures thus, 1448. If by 1000 cut off three Figures thus, 228/144. If by 10000 cut off four Figures thus, 35/5509 and ſo on.

¶ Having thus briefly handled, or touched the the *Demonſtrative* or *Theoretical* part, ſo far as ſerves for the foundation or ground-work, I ſhall now come to ſomething more practical: which may be as the erecting of a Fabrick, or Superſtructure upon it.

CHAP. 7,

Of Line-Meaſure,

Line-Meaſure is that on which other meaſures, as *Superficies*, or *Solids*; do depend, and

and therefore I thought it not amiss to give a touch of it, and that is this. That in measuring a thing (especially if it be of any considerable length) you be careful to carry your Rule as straight as you can, in a direct or right Line; because carrying the Rule in an oblique or crooked Line, may cause some difference in the measure. This caution I give in cases of things to be measured, wherein exactness is required.

CHAP. 8.

Of the measuring of Superficies. &c.

I.

To measure Glass.

IF a Pane of Glass be 3 Foot long, and 2 Foot broad, it is only Multiplying 3 by 2, thus.

F
3
2
6 foot

If

If a Pane of Glaſs be 3 Foot 4 Inches long, and 2 Foot 1 Inch broad, ſet it, thus,

34
21

and Multiply it, thus.

34
21
34
68
714

Now to know the Feet and Inches, cut off two Figures with a line, thus,

F. In.
7|14

and you will ſee it is 7 Foot, 14 Inches.

If a Pane of Glaſs be 4 Foot 3 inches long, and 2 Foot broad, ſet it with a Cipher to keep the place of inches, where the inches are wanting, thus,

43
20
00
86
860

Then

Then cut off the Cipher and the next Figure with a line, and it shews the Feet and inches, thus, 8|60. Or you may multiply the Figures only, and add a Cipher after, thus.

43	43
2	2
86	860

If a Pane of Glass be 6 foot, 3 inches, and 2 parts of an inch long, and 2 foot, 4 inches, and 9 parts broad, set it down and multiply it, thus.

	632
	249
	3160
	2528
	1264
	154840

Now because there are *Feet*, *Inches*, and *Parts*, cut off four Figures, and it will shew the Feet, thus,

F.
15|4840.

then cut off two, and it will shew the Feet, inches and parts, thus.

F. In. P.
15|48|40

When

¶ When it happens that several Panes of Glass are of one bigness, you may measure but one of them, and multiply the product of that, by the number of the Panes of Glass.

As suppose there should be 4 of these Panes of Glass last measured, then set the measure of that down, and multiply it by 4, thus,

F. In. P.
1 5 14 8 14 9
4
61 9 3 6 9

which Multiplyed by 4, and Divided when multiplied, thus,

F. In. P.
it is 61 9 3 6 9

II.

To measure Board.

If a Board be 10 Foot long, and 1 Foot broad this thing is easily measured, but to shew the way of working things more difficult, I will reduce it into inches, in 10 foot there is

100 inches, and in one foot, 10 inches; therefore set down 100, and multiply it by 10 (by adding a Cipher to it) thus 1000, now because there is two Ciphers in a foot Superficial, therefore cut two Ciphers off, and it sheweth the quantity of Feet, thus, 10|00 So you must do, if it happen to be figures and not Ciphers.

If a board be 11 foot 9 inches long, and 1 foot 2 inches broad, set it down so, and multiply it thus.

```
 119
  12
-----
 238
 119
-----
1428
```

Then cut off two figures, and it sheweth the feet and inches, thus, 14|28.

If a Board be 12 foot 3 inches and 2 parts long, and 1 foot, 2 Inches and 4 parts broad, set it down and multiply it, thus

```
 1232
  124
-------
 49028
  2464
  1232
-------
152768
```

Then

Then cut off four figures and it shewes the feet, thus; 15|2768 and then cut off two, it shews the inches and parts, thus. 15|27|68

III.

To measure Tiling.

If a Roof be 20 foot long, and 12 foot broad, multiply them, thus.

```
  20
  12
 ----
  40
 20
 ----
 240
```

If a Roof of Tiling be 32 foot long, and 13 foot 5 inches broad, set it down and multiply it, thus.

```
   320
   135
 -----
  16.00
  9.60
 320
 -----
 43200
```

To

Or multiply it without the Cipher, and add that afterwards, thus.

	135	
	32	
	270	
	405	
	4320	43200

Then cut off two Cyphers and there will be the quantity of feet, thus.

F.	In.
432	00

or 4 square 32 foot thus. 4|32|00

To measure Tiling upon the Ground, Multiply the length of the Building by the breadth, and add one half of the Product thereunto, gives you the Content. Suppose a building be 100 foot in length, and 100 in breadth, that produceth 100 foot, then the half of that Product is 50, which being added to 100 makes 150 foot, the measure of that Roof.

If the Tyling of an House be 48 foot, 7 inches, and 8 parts long, and 21 foot, 3 inches, 2 parts broad, set it down, and multiply it thus. I mean by the Breadth, the Depth of the Rafters.

4878
2232

9756
14634
48788
9756

10399896

Then cut cut off four figures and it ſhews the feet, thus,

F.
1039|9896,

next cut off two of them and it ſhews the inches, and parts, thus,

F. In. P.
1039|98|96

Then cut off the 10, and it ſhews the Squares, thus.

S. F. In. P.
10|39|98|96

IV.

To meaſure Wainſcot, Painting, Plaiſtering, &c.

Divide the Yard into 10 equal parts, which you may call Feet, each part being ſomthing

more than three inches, and every one of those parts sub-divided into 10 lesser parts, so the Yard will contain either 10 larger or 100 smaller parts in Line-Measure; and in Superficies it contains 100 larger parts, and every part 100 smaller parts.

Suppose a Room be 9 foot square every way according to the common foot: Take a 2 foot Rule, at 18 common inches, and reckon that for 5 foot, so in measuring, the first is 5, the next 10, then 15, then 20, next 25, and lastly 30; which you may multiply by the other side 30 more.

30
30

900

Now because there is 100 foot Superficial in the Yard, thus divided, cut off two figures, and it shews the quantity of Yards.

Suppose a Room be 33 of these feet, and the Yard thus divided every way, set down the Work; and then multiply 33 by 33 and it makes 1089. Cut off two figures towards the right hand and your work stands as in the following Example.

33
33

99
99

1089

If a Room be 84 foot and a half, then set down 845 in length, and 63 foot, 7 inches broad, set it thus, 637 and Multiply the one by the other.

845
637

5915
2535
5070

538265

To Reduce it into Yards, cut off four figures because there is 10000 parts or inches in the Yard Superficies; cut off so many figures, as there are Ciphers and because there is 100 inches in a foot cut off two figures, thus.

53|82|65

And to find the Fractional parts, loook into Fractional Table [*following*] in the ninth Chapter.

If a Room be 3 yards every way, multiply 3 by 3.

If a Room be 18 foot 6 inches long, and 14 foot 3 inches broad, take the Yard and find how many yards are in it: and then see what parts remain.

Suppose a Room be 6 yards 2 foot 3 inches one way, and 4 yards, 7 foot, 5 inches, set it down, and multiply it, thus.

623
475

3115
4361
2492

295925

Now this is brought all into inches, which inches contain about a quarter and half quarter of the common inch: you must to bring it into yards divide it by 10000, because there is four Ciphers in ten thousand, therefore cut off four figures, thus.

Y.
29|5925

There is 29 yards, and to bring the other into feet, divide it by 100, now because there is two Ciphers in 100, cut off two figures more, thus.

Y. F. P.
29|59|25

and

and it sheweth that there is 29 yards, 59 feet, 25 parts.

If you look into the Fractional Table you may find the 59 feet is half a yard 9 foot: and the 25 parts a quarter of a foot. There is about 16 of these feet to make a common foot Superfice.

To measure a Superficies 4 Foot 5 Inches square.

Multiply 45 by 45 and it produceth 2025, the Contents of it, thus.

```
  45
  45
 ----
 225
180
 ----
2025
```

Then divide two figures, the first and second from the other with a line between them, and it will shew you the feet and inches, thus.

F. In.
20|25

For the clearer demonſtration, or better underſtanding of it, I have made this Quadrangle, or four-ſquare figure repreſenting the thing to be meaſured, with the Contents of feet and inches in it, now if you will, you may multiply the feet by themſelves, and inches by themſelves, firſt the whole feet, 4 times 4 being 16: now to bring forth the contents of the inches, put a Cipher to the four foot to Reduce them into inches, and multiply that by 5: this do twice for the inches on the two ſides of the figure, and then for the corner, multiply 5 by 5, thus.

40	40	5
5	5	5
200	200	25

Add two Ciphers to the feet and ſet them down.

200
200
25
425
1600
2025

To

To measure a Superficies 9 Foot 5 Inches long, and 7 Foot 1 Inch broad.

Set your figures down thus, and multiply them.

95
7*x*

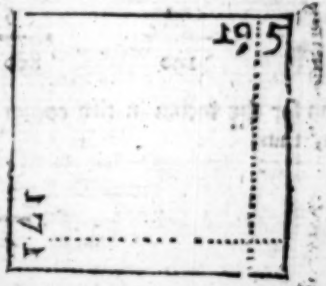
95
665

6745

To know the feet and inches divide the first and second figures from the other, and it will shew the feet and inches, thus.

F. In.
67|45

Or thus in a greater figure you may do it in parts



If a thing be 19 foot 5 inches long, and 17 foot 1 inch broad, you may multiply the feet by themſelves, and the inches by themſelves, thus.

19
17

763
19

953

Then the inches by themſelves, but in this, you muſt multiply them by the length of the ſide they belong to; ſo the ſide that the 5 inches belongs to is 17 foot 5 inches long, and the ſide that the 1 inch belongs to is 19 foot 5 inches long. So that to do this you muſt add a Cipher to the feet to bring them into inches, and then multiply the ſides by them, thus.

190	170
1	5
---	---
190	850

Then for the inches in the corner by themſelves, thus.

5
1

5

Then

Then to the whole feet which contain 953, put two Ciphers to bring them into inches, and add all together, thus.

95300
190
850
5
96345

To bring it into feet and inches, cut off two figures, thus.

963|45

A Fractional Table of Superficies, as they are in proportion one to another. The Table begins at twelve and an half, which is the half quarter of an Inch, or of a Foot, or of a Yard, or of a Square, or of a Rod.

Half a quarter	12 ½
A Quarter	25
Quarter and half Quarter	37 ½
Half	50
Half and half Quarter	62 ½
Three Quarters	75
3 Quarters and ½ Quarter	87 ½
The whole	100

V.

To measure Brick-Work.

Divide the Rod. (it being 16 foot and a half) into 10 equal parts. which (for the better understanding) may be called feet, then divide those feet into 10 equal parts again, which may be termed inches; then divide those inches into 10 equal parts more. So the Rod contains 10 Foot 100 inches, or 1000 parts, in Line-Measure. In Superficies 100 Foot, 10000 inches, 1000000 parts. Or 100 Foot, every foot 100 inches, and every inch 100 parts.

Or more plainly thus. Divide one Rod (to wit) 16 foot 6 inches into 10 equal parts and every one of those parts contains 19 inches $\frac{8}{10}$ of an inch. Then divide 19 inches $\frac{8}{10}$ into ten equal parts produceth almost 2 inches, then that divided again into 10 equal parts produceth $\frac{1}{8}$ of an inch.

It may be, some may object and say, that working by three places is too exact and troublesome, therefore as before I divided the whole Rod: so now if you please you may divide the half rod, namely 8 foot 3 inches into 10 equal parts produceth almost 10 inches, and then subdivide each of those parts into 10 parts, produceth almost one inch, that so you may work by two places. As suppose you have wrought a number which produceth six figures, which are these, 322525; then cut off the four last figures, thus, 32|2525, and divide the two first

by

by 4, that is, 32 by 4 produceth 8 rod, then afterwards cut off the two laſt figures, thus. 32|25|25, and the two midlemoſt figures ſignifie 25 foot reckoning 100 foot to the half rod, and the two laſt figures which is 25 is $\frac{1}{4}$ of a foot, which the Fractional Table will ſhew you: (to come nearer the matter) if you pleaſe you may divide the quarter rod, which is 4 foot 1 inch and an half into 10 equal parts, produceth almoſt 5 inches, and then ſubdivide that into 10 equal parts produceth almoſt half an inch; ſuppoſe you have a number conſiſting of ſix figures as this 322500, then cut off the four laſt figures, and divide the two firſt by 16, produceth 2, which is 2 rods, and the other two figures ſignifie the $\frac{1}{4}$ of the 16th part of a rod, or the $\frac{1}{4}$ of a Superficies, that is 4 foot 1 inch and $\frac{1}{2}$ ſquare.

Note that theſe inches are different from theſe, or our common Rules: theſe feet being larger than the common foot, there is a Table of prices to ſhew from 100 foot to 1 foot, the price.

In many places they work by the perch 16 foot and a half in one Perch, but in this way there is but 10 foot. To do this take an ordinary Foot-Rule to meaſure the height of it, it being a Foot high to make a Perch: the length being 16 foot and a half long, divided as before, makes but 10 feet, or 1000 inches, or 100000 parts.

To reduce Brick-work into it's proper thickneſs, you muſt multiply the number of Feet, or

Rods

Rods by the breadth of ſo many Bricks, as the is thick, and the product you muſt divide by 3 that is the breadth of 3 Bricks:

As for Example, If the wall be 4 Bricks thick, then multiply by 8; if 3 Bricks and ½ thick then by 7 and divide by 3, &c.

Example 1.

If a piece of work be 7 foot; Divide it by 3 and the Fraction left will be the third part of a foot. ſo there is in it 2 foot ⅓, ſo do it ſet it, thus.

7(
3

And ſee how many times three you can have in 7, that is 2 times, ſet that for a Quotient. thus.

1
7(2
3

Example 2.

Suppoſe a piece of work have 135 foot in it, and four Bricks thick, ſet it down, thus.

135
4
540

And multiply 135 by 4 and it makes 540, which divide by 3, thus.

20
540 (180
333

To know how many Rods is in this, Divide it by 100, and that you may do by cutting off two places. thus.

1|80

If you would know how many Perches there is in it, Divide it by 10, and that is done by cutting off the Cipher, thus.

18|0

This kind is all the Division required.

CHAP. 9.

To measure Timber or Stone.

Suppose a piece of Timber be 5 Inches square, (which is of this new measure half a foot) *and 4 Foot long,* It is commonly known, that in such a piece of Timber there is just a foot, but it is set down thus for the clearness of understanding: To work it, set it down thus, and multiply the end first.

5
5

25

Then bring the 4 feet into inches by adding a Cipher, and set it thus, and multiply it so, 25 multiplied by 40 produceth 1000

25
40

1000

Now because there is 1000 inches in a foot Cubical or Solid, cut off the three Ciphers, and it sheweth the Foot, thus, 1|000

Suppose

Suppose a piece of Timber be 1 *foot* 1 *inch over, one way, and* 2 *foot the other way; and* 20 *foot,* 5 *inches long.* First multiply the Base, or End by it self, thus.

20
11

20
20

220

Reduce the 2 foot into inches by adding a Cipher: and then multiply this end by the length, thus.

220
205

1100
000
440

45100

Then cut off three places towards the right hand, and it shews the feet and inches, thus,

45|100

If a piece of Timber be 1 *foot* 4 *inches and* 3 parts

parts one way, and one Foot, or 10 *Inches,* 5 *parts the other way on the end, and* 16 *Foot* 5 *Inches long.* Multiply first the Base or end, 143 by 105, thus.

```
  143
  105
 -----
  715
  000
  143
 -----
15015
```

Then multiply the Product of this by the length adding a Cipher to bring it into the same Denomination of parts, thus.

```
  15015
  1650
 -------
  750750
  90090
  15015
 --------
 24874750
```

Now cut off three Figures or places towards the right hand, and they are the parts, thus.

```
                P.
 24874|750
```

Then cut off three more and it shews the feet and inches, thus.

```
            F. In.  P.
 24|874|750
```

You

You may in the Dividing of it begin with cutting off either the parts at one end, or the feet at the other, knowing the Rule by which you are to do it; therefore observe well this that followeth.

¶ When you have the contents of a Solid, which hath Parts of Inches, Inches, and Feet, because there is a Million of parts in a Foot Cubical, 1000000, in the Dividing of it, to reduce it into Feet, or shew first how many feet there are; cut off six figures towards the right hand, thus.

F.
24|874750

Then to bring it into Inches and Parts, cut off three figures more, thus. 24|874|756 because there is as many parts in an Inch, as there are inches in a Foot, or as Inches are to Feet, so parts are to Inches.

Suppose a piece of Timber be 2 Foot square at the end, and 20 Foot long. To measure this, multiply the end first 2 by 2, and it produceth 4; then multiply that by 2 and it produceth 8, to which add a Cipher, and it is done, thus.

2
2
—
4
2 80
—
8

If a piece of Timber be 2 Foot 3 Inches in the Base, or end, one way, and 1 Foot 5 Inches the other way, and 24 Feet long. First find the contents of the end by multiplying the two sides, thus.

23
15
—
115
23
—
345

Then multiply the Product by the length, adding a Cipher to bring the Feet into inches, thus.

345
240
—
13800
690
—
82800

and

and then Divide three figures or places from the reſt, to bring them into feet, and inches, thus. 82|800. You muſt cut off three places, becauſe it is in Solid meaſure, there being 1000 inches in a Foot.

If a piece of timber be 2 Foot 7 Inches on the Baſe or end, one way, and 2 Foot 4 Inches 3 parts the other way, and 24 Foot long. Firſt multiply the ends and adding a Cipher to that which wants the parts to bring them into one Denomination, thus.

```
  270
  243
 ----
  810
 1080
  540
 ----
65610
```

Then multiply that by the length, adding two Ciphers to bring it into Parts.

```
 65610
  2400
 ------
262440
131220
------
157|464000
```

In this there is 157 Foot 464 Inches, in the

Fractional Table you may see what part of a Foot these inches are, and then Divide it.

F. In. P.
157464000

If a piece of Timber 14 inches, which is 1 Foot 2 Inches one way, and 1 Foot, that is, 10 Inches the other way, or in Square on the end; and 16 Foot 4 Inches long. Multiply first 14 by 10, which is done by adding a Cipher, thus, 140. Then Multiply that by the length 164 thus.

164
140
656
164
22960

When a number is to be Multiplied by 10, add only a Cipher, and it is done; if by 100, add two Ciphers; if by 1000 add three Ciphers.

Now for dividing of this or any other number, consider in a foot solid there is 1000 inches; therefore cut off three figures or places towards the right hand, thus.

F. In.
22|960

And

And to know what quantity of a foot those inches are; you may have recourse to the *Fractional Table of Solids*, and it will shew you they are near a foot more.

A Fractional Table of Cubes as they are in proportion one to another.

The Table begins at 125, which is the half Quarter of an Inch, or half Quarter of a Foot or Yard Cubical.

The Half Quarter	125
The Quarter	250
The Quarter and half quarter	337
The Half	500
The Half and half quarter	625
Three Quarters	750
Three Quarters and half quarter	875
The whole	1000

I have made use of Timber, and Board, and Glass-Measure only by way of Example, although I know there are sufficient Rules for measuring of the same: yet I hope you conclude with me, that knowledge is no burthen; but this Book is chiefly intended for the Mensuration of Rods, Squares Yards, and such like, as belong only to Arithmetick. I hope the Courteous Reader will understand my meaning between Decimal Feet and Common Feet.

A piece of Timber being to be Measured and not just Square, how to make it square by the Line of Numbers; commonly called Gunter's-Line.

Divide the space between the breadth and the thickness into two equal parts, and the Compasses shall stay at the side of a Square equal to the Oblique made of that breadth and thickness, which is the mean Proportional between them: If a piece of Timber be 8 Inches one way, and 18 the other, Divide this into two equal parts, and the Compasses will fall upon 12 Inches and 3 Quarters, for the true square desired.

To find the true Square of a Circle, or round piece of Timber.

THE Common way of measuring is to girt the piece of Timber in the middle, and to double the Line 4 times, and then throw away three of those lengths and take one of them for the true square. But the true way is to girt the piece of Timber, and then double the Line 7 times, and throw away 5 of those lines, and keep 2 which is the true Square.

For Example.

Suppose a piece of Timber were 11 Inches about, the true square is six Inches; behold the Figure, first Divide the Line *A B* into two equal parts as at *D*, and the Division is almost ⅛ part of the Circumference: the girting of a piece of Timber doth give something more, but the doubling of the Line will make it good with advantage enough to the Seller.

He that buyes, buyes all for good Timber; therefore he must not hew too much.

CHAP. 10.

The Use of the Table of Multiplication, to measure Superficies by.

THis Table of multiplication on the top or head of it reacheth from 1 to 100, and on the first Column toward the left hand from the top downwards it reacheth from 1 to 25, (on that page which is on the left hand of you when the Book is opened) And the first Column of the other page, (which is on your left hand it reacheth from 25 to 50. And if there be

occasion of greater numbers, it is but adding two summs together, such as you have use of. If the one be 100 Foot one way, and 50 Foot the other, it sheweth how many Foot the whole thing contains, by looking for 100 at the top, or head of the Table, and 50 in the first Column, and see where they meet at a Right Angle, and you will find it to be 5000. And it sheweth greater numbers by Addition, as was before.

For Example.

If you would know how many Inches there be, in a Rod, in Line Measure, the Rod contains 100 Inches, so that to know the Superficial Contents by the Table, you must add the Contents or Product of the 50 together, which is 5000, thus.

5000
5000
10000

This is either Inches in the Rod, or Square, or else parts in a Foot Superfice, or the smaller parts in a Yard Superficies.

To find the Contents of a Superficies by the Table of Multiplication.

IF *a thing be* 19 *Foot*, 5 *Inches long*, *and* 17 *Foot*, 1 *Inch broad*, First look for 19 on the top or head of the Table, and 17 in the first Column or side of the Table, and where it meets at a right angle, you will find 323, that is the Contents of the whole Feet.

Then for the Inches, look on the head of the Table again, and add a Cipher to it to bring it into inches, 190, then set the 1 inch under it, thus.

190
1

And because 1 doth neither multiply nor divide, add them together, thus.

190
1
191

Then next look on the head of the Table 17, and add a Cipher to that to reduce them into Inches, thus. 170. And then look 5 in the first Column

Column, and at a Right Angle you will find 85, add that to 170, and it will be as in this Example.

```
 170
  85
-----
 255
```

Then the corner being 5 Inches one way, and but 1 inch the other, set that down under, thus, and add them together.

```
 191
 255
   5
-----
 451
```

Then Reduce the Feet into Inches, by adding two Ciphers; because it is superficies, thus.

```
32300
```

Then add the inches to it, thus.

```
 32300
   451
-------
 32751
```

Then

Then cut off two figures and it sheweth the feet and inches, thus.

F. In.
337|1

It contains 337 Foot, and 1 Inch more than half a foot, as you may see by the Fractional Table.

The working of any Question in Division by the Table of Multiplication.

First seek your Divisor at the head of the Table, and the Divident in the Column directly under, and in the first Column to the left hand against your Divident, for the Quotient.

Example.

To Know how many shillings be in three hundred and sixty Pence, look in the head of the Table for 12, and in the Columnn under, for 360, and in the first Colum to the left hand there is 30 whereby you find that in 360 pence there be 30 shillings, but if you cannot find your Dividend

Dividend, then take the next left, and what is wanting is a Fraction either of pence, or shillings, and the like by this you may reduce pence into shillings, or shillings into pounds, or feet into yards.

How to measure an Equal-sided-Plane.

Add the two sides together, and take half for the mean proportion. *First*, Let 10 and 40 be added together, and that makes 50, where the half is 25; or as some will have it, add half the difference of the given terms to the lesser of them, and that Aggregate, or Summe is the Arithmetical mean required.

Example

Let 10 and 40 be terms given, now if you Substract one out of the other, their difference is 30, whose half difference 15 added to 10 the lesser term makes 525, and that is the Arithmetical mean sought.

THE TABLE OF Multiplication.

	2	3	4	5	6
1	2	3	4	5	6
2	4	6	8	10	12
3	6	9	12	15	18
4	8	12	16	20	24
5	10	15	20	25	30
6	12	18	24	30	36
7	14	21	28	35	42
8	16	24	32	40	48
9	18	27	36	45	54
10	20	30	40	50	60
11	22	33	44	55	66
12	24	36	48	60	72
13	26	39	52	65	78
14	28	42	56	70	84
15	30	45	60	75	90
16	32	48	64	80	96
17	34	51	68	85	102
18	36	54	72	90	108
19	38	47	76	95	114
20	40	60	80	100	120
21	42	63	84	105	126
22	44	66	88	110	132
23	46	69	92	115	138
24	48	73	96	120	144
25	50	75	100	125	150

	2	3	4	5	6
26	52	78	104	130	156
27	54	81	108	135	162
28	56	84	112	140	168
29	58	87	116	145	174
30	60	90	120	150	180
31	62	93	124	155	186
32	64	96	128	160	192
33	66	99	132	165	198
34	68	102	136	170	204
35	70	105	140	175	210
36	72	108	144	180	216
37	74	111	148	185	222
38	76	114	152	190	228
39	78	117	156	195	234
40	80	120	160	200	240
41	82	123	164	205	246
42	84	126	168	210	252
43	86	129	172	215	258
44	88	132	176	220	264
45	90	135	180	225	270
46	92	138	184	230	276
47	94	141	188	235	282
48	96	144	192	240	288
49	98	147	196	245	294
50	100	150	200	250	300

7	8	9	10	11
1	7	8	9	10	11
2	14	16	18	20	22
3	21	24	27	30	33
4	28	32	36	40	44
5	35	40	45	50	55
6	42	48	54	60	66
7	49	56	63	70	77
8	56	94	72	80	88
9	63	72	81	90	99
10	70	80	90	100	110
11	77	88	99	110	121
12	84	96	108	120	132
13	91	104	117	130	143
14	98	112	126	140	154
15	105	120	135	150	165
16	112	128	144	160	176
17	119	136	153	170	187
18	126	144	162	180	198
19	133	152	171	190	109
20	140	160	180	200	220
21	147	168	189	210	231
23	154	176	198	220	242
23	161	184	107	230	253
24	168	192	216	240	264
25	175	200	225	250	275

	7	8	9	10	11
26	182	208	234	260	286
27	189	216	243	270	297
28	196	224	252	280	308
29	203	232	261	290	319
30	210	240	270	300	330
31	217	248	279	310	241
32	224	256	288	320	352
33	231	264	297	330	363
34	238	272	306	340	374
35	245	280	315	350	385
36	252	288	324	360	396
37	259	296	333	370	407
38	266	304	342	380	418
39	273	312	351	390	429
40	280	320	360	400	440
41	287	328	369	410	451
42	294	336	378	420	462
43	301	344	387	430	473
44	308	352	396	440	484
45	315	360	405	450	495
46	322	368	414	460	506
47	329	376	423	470	517
48	336	384	432	480	528
49	343	392	441	490	539
50	350	400	450	500	550

	12	13	14	15	16
1	12	13	14	15	16
2	24	26	28	30	32
3	36	39	42	45	48
4	48	52	56	60	64
5	60	65	70	75	80
6	72	78	84	90	96
7	84	91	98	105	112
8	96	104	112	120	128
9	108	117	126	135	144
10	120	130	140	150	160
11	132	143	154	165	176
12	144	156	168	180	192
13	156	169	182	195	208
14	168	182	196	210	224
15	180	195	210	225	240
16	192	208	224	240	256
17	204	221	238	255	272
18	216	234	252	270	288
19	228	247	266	285	304
20	240	260	280	300	320
21	252	273	294	315	336
22	264	286	308	330	352
23	276	299	322	345	368
24	288	312	336	360	384
25	300	225	350	375	400

	12	13	14	15	16
26	312	338	364	390	416
27	324	351	378	405	432
28	336	364	392	420	448
29	348	377	406	435	464
30	360	390	420	450	480
31	372	403	434	465	496
32	384	416	448	480	512
33	396	429	462	495	528
34	408	442	476	510	544
35	420	455	490	525	560
36	432	468	504	540	576
37	444	481	518	555	592
38	456	494	532	570	608
39	468	507	546	585	624
40	480	520	560	600	640
41	492	533	574	615	656
42	504	546	588	630	672
43	516	559	602	645	688
44	528	572	616	660	704
45	540	585	630	675	720
46	552	598	644	690	736
47	564	611	658	705	752
48	576	624	672	720	768
49	588	637	686	735	784
50	600	650	700	750	800

17	18	19	20	21
1	17	18	19	20	21
2	34	36	38	40	42
3	51	54	57	60	63
4	68	72	76	80	84
5	85	90	95	100	105
6	102	108	114	120	126
7	119	126	133	140	147
8	136	144	152	160	168
9	153	162	171	180	189
10	170	180	190	200	210
11	187	198	209	220	231
12	204	216	228	240	252
13	221	234	247	260	273
14	238	252	266	280	294
15	255	270	285	300	315
16	272	288	304	320	336
17	289	306	323	340	357
18	306	324	342	360	378
19	323	342	361	380	399
20	340	360	380	400	420
21	357	378	399	420	441
22	374	396	418	440	462
23	391	414	437	460	483
24	408	432	456	480	504
25	425	450	475	500	525

	17	18	19	20	21
26	442	468	494	520	546
27	459	486	513	540	567
28	476	504	532	560	588
29	493	522	551	580	609
30	510	540	570	600	630
31	527	558	589	620	651
32	544	576	608	640	672
33	561	594	627	660	693
34	578	612	646	680	714
35	595	630	665	700	735
36	612	648	684	720	756
37	629	666	703	740	777
38	646	684	722	760	798
39	663	702	741	780	819
40	680	720	760	800	840
41	697	738	779	810	861
42	714	756	798	840	882
43	731	774	817	860	903
44	748	792	836	880	924
45	765	810	855	900	945
46	782	828	874	920	966
47	799	846	893	940	987
48	816	864	912	960	1008
49	833	882	931	980	1029
50	850	900	950	1000	1050

	22	23	24	25	26
1	22	23	24	25	26
2	44	46	48	50	52
3	66	69	72	75	78
4	88	92	96	100	104
5	110	115	120	125	130
6	132	138	144	150	156
7	154	161	168	175	182
8	176	184	192	200	208
9	198	207	216	225	234
10	220	230	240	250	260
11	242	253	264	275	286
12	264	276	288	300	312
13	286	299	312	325	338
14	308	322	336	350	364
15	330	345	360	375	390
16	352	368	384	400	416
17	374	391	408	425	442
18	399	414	432	450	468
19	418	437	456	475	494
20	440	460	480	500	520
21	462	483	504	525	546
22	484	506	528	550	572
23	506	529	552	575	598
24	528	552	576	600	624
25	550	575	600	625	650

	22	23	24	25	26
26	572	598	624	650	676
27	594	621	648	675	702
28	616	644	672	700	728
29	638	667	696	725	754
30	660	690	720	750	780
31	682	713	744	775	806
32	704	736	768	800	832
33	726	759	792	825	858
34	748	782	816	850	884
35	770	805	840	875	910
36	792	828	864	900	936
37	814	851	888	925	962
38	836	874	912	950	988
39	858	897	936	975	1014
40	880	920	960	1000	1040
41	902	943	984	1025	1066
42	924	966	1008	1050	1092
43	946	989	1032	1075	1118
44	968	1012	1056	1100	1144
45	990	1035	1080	1125	1170
46	1012	1058	1104	1150	1196
47	1034	1081	1128	1175	1222
48	1056	1104	1152	1200	1248
49	1078	1127	1176	1225	1274
50	1100	1150	1200	1250	1300

	27	28	29	30	31
1	27	28	29	30	31
2	54	56	58	60	62
3	81	84	87	90	93
4	108	112	116	120	124
5	135	140	145	150	155
6	162	168	174	180	186
7	189	196	203	210	217
8	216	224	232	240	248
9	243	252	261	270	279
10	270	280	290	300	310
11	297	308	319	330	341
12	324	336	348	360	372
13	351	364	377	390	403
14	378	392	406	420	434
15	405	420	435	450	465
16	432	448	464	480	496
17	459	476	493	510	527
18	486	504	522	540	558
19	513	532	551	570	589
20	540	560	580	600	620
21	567	588	609	630	651
22	594	616	638	660	682
23	621	644	667	690	713
24	648	672	696	720	744
25	675	700	725	750	775

	27	28	29	30	31
26	702	728	754	780	806
27	729	756	783	810	837
28	756	784	812	840	868
29	783	812	841	870	899
30	810	840	870	900	930
31	837	868	899	930	961
32	864	896	928	960	992
33	891	924	957	990	1023
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35	945	980	1015	1050	1085
36	972	1008	1044	1080	1116
37	999	1036	1073	1110	1147
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40	1080	1120	1160	1200	1240
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3	96	99	102	105	108
4	128	132	136	140	144
5	160	165	170	175	180
6	192	198	204	210	216
7	225	231	238	245	252
8	256	264	272	280	288
9	288	297	306	315	324
10	320	330	340	350	360
11	352	363	374	385	396
12	384	396	408	420	432
13	416	429	442	455	468
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15	480	495	510	525	545
16	512	528	544	560	576
17	544	561	578	595	612
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21	672	693	714	735	756
22	704	726	748	770	792
23	736	759	782	805	828
24	768	792	816	840	864
25	800	825	850	875	900

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27	864	891	918	945	972
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34	1088	1122	1156	1190	1224
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3	111	114	117	120	123
4	148	152	156	160	164
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6	222	228	234	240	246
7	259	266	273	280	287
8	296	304	312	320	328
9	333	342	351	360	369
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11	407	418	429	440	451
12	444	456	468	480	492
13	481	494	507	520	533
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15	555	570	585	600	615
16	592	608	624	640	656
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18	666	684	702	720	738
19	703	722	741	760	779
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21	777	798	819	840	861
22	814	836	858	880	902
23	851	874	897	920	943
24	888	912	936	960	984
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2	84	86	88	90	92
3	126	129	132	135	138
4	168	172	176	180	184
5	210	215	220	225	230
6	252	258	264	270	276
7	294	301	308	315	322
8	336	344	352	360	368
9	378	387	396	405	414
10	420	430	440	450	460
11	462	473	484	495	506
12	504	516	528	540	552
13	546	559	572	585	598
14	588	602	616	630	644
15	630	645	660	675	690
16	672	688	704	720	736
17	714	731	748	765	782
18	756	774	792	810	828
19	798	817	836	855	874
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21	[illegible]	903	924	945	966
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24	1008	1032	1056	1080	1104
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46	1932	1978	2024	2070	2116
47	1974	2021	2068	2115	2162
48	2016	2064	2112	2160	2208
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3	141	144	147	150	153
4	188	192	196	200	204
5	235	240	245	250	255
6	282	288	294	300	306
7	329	336	343	350	357
8	376	384	392	400	408
9	423	432	441	450	459
10	470	480	490	500	510
11	517	528	539	550	561
12	564	576	588	600	612
13	611	624	637	650	663
14	658	672	686	700	714
15	705	720	735	750	765
16	752	768	784	800	816
17	799	816	833	850	867
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19	893	912	931	950	969
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42	1974	2016	2058	2100	2142
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4	208	212	216	220	224
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6	312	318	324	330	336
7	364	371	378	385	392
8	416	424	432	440	448
9	468	477	486	495	504
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11	572	583	594	605	616
12	624	636	648	660	672
13	676	689	702	715	728
14	728	742	756	770	784
15	780	795	810	825	840
16	832	848	864	880	896
17	884	901	918	935	952
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3	171	174	177	180	183
4	228	232	236	240	244
5	285	290	295	300	305
6	342	348	354	360	366
7	399	406	413	420	427
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9	513	522	531	540	549
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11	627	638	649	660	671
12	684	696	708	720	732
13	741	754	767	780	793
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3	186	189	192	195	198
4	248	252	256	260	264
5	310	315	320	325	330
6	372	378	384	390	396
7	434	441	448	455	462
8	496	504	512	520	528
9	558	567	576	585	594
10	620	630	640	650	660
11	682	693	704	715	726
12	744	756	768	780	782
13	806	819	832	845	858
14	868	882	896	910	924
15	930	945	960	975	990
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3	201	204	207	210	213
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6	402	408	414	420	426
7	469	476	483	490	497
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9	603	612	621	630	639
10	670	680	690	700	740
11	737	748	759	770	781
12	804	816	828	840	852
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3	216	219	222	225	228
4	288	292	296	300	304
5	360	365	370	375	380
6	432	438	444	450	456
7	504	511	518	525	532
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11	792	802	814	825	836
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4	308	312	316	320	324
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10	770	780	790	800	810
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23	1771	1794	1817	1840	1863
24	1848	1872	1896	1920	1944
25	1925	1950	1975	2000	2025

	72	78	79	80	81
26	2002	2028	2054	2080	2106
27	2079	2106	2133	2160	2187
28	2156	2184	2212	2240	2268
29	2233	2262	2291	2320	2349
30	2310	2340	2370	2400	2430
31	2387	2418	2449	2480	2511
32	2464	2496	2528	2560	2592
33	2541	2574	2607	2640	2673
34	2618	2652	2686	2720	2754
35	2695	2730	2765	2800	2835
36	2772	2808	2844	2880	2916
37	2858	2886	2923	2960	2997
38	2936	2964	3002	3040	3078
39	3003	3042	3081	3120	3159
40	3080	3120	3160	3200	3240
41	3157	3298	3239	3280	3321
42	3234	3276	3318	3360	3402
43	3311	3354	3397	3440	3483
44	3388	3432	3476	3520	3564
45	3465	3510	3555	3500	3645
46	3552	3588	3634	3680	3726
47	3629	3666	3713	3760	3807
48	3796	3744	3792	3840	3888
49	3873	3832	3871	3920	3969
50	3850	3900	3950	4000	4050

	82	83	84	85	86
1	82	83	84	85	86
2	164	166	168	170	172
3	246	249	252	255	258
4	328	332	336	340	344
5	410	415	420	425	430
6	492	498	504	510	516
7	574	581	588	595	602
8	656	664	672	680	688
9	738	747	756	765	774
10	820	830	840	850	860
11	902	913	924	935	946
12	984	996	1008	1020	1032
13	1066	1079	1092	1105	1118
14	1148	1162	1176	1190	1204
15	1230	1245	1260	1275	1290
16	1312	1328	1344	1360	1376
17	1394	1411	1428	1445	1462
18	1476	1494	1512	1530	1548
19	1558	1577	1596	1615	1634
20	1640	1660	1630	1790	1720
21	1722	1743	1764	1785	1806
22	1804	1826	1848	1870	1892
23	1886	1909	1932	1955	1978
24	1968	1992	2016	2040	2064
25	2050	2075	2100	2125	2150

	82	83	84	85	86
26	2132	2158	2184	2210	2236
27	2214	2241	2268	2295	2322
28	2296	2324	2352	2380	2408
29	2378	2407	2436	2465	2494
30	2460	2490	2520	2550	2580
31	2542	2573	2604	2635	2666
32	2624	2656	2688	2710	2752
33	2706	2730	2772	2895	2838
34	2788	2822	2856	2880	2924
35	2870	2905	2940	2975	3010
36	2952	2988	3024	3060	3096
37	3034	3071	3108	3145	3182
38	3116	3154	3192	3230	3268
39	3198	3237	3276	3315	3354
40	3280	3320	3360	3400	3440
41	3362	3403	3444	3485	3526
42	3444	3487	3528	3570	3612
43	3526	3569	3612	3655	3698
44	3608	3652	3696	3740	3784
45	3690	3735	3780	3825	3870
46	3772	3818	3864	3910	3956
47	3854	3901	3948	3995	4042
48	3936	3984	4032	4080	4128
49	4018	4067	4116	4165	4214
50	4100	4150	4200	4250	4300

	87	88	89	90	91
1	87	88	89	90	91
2	174	176	178	180	182
3	261	264	267	270	273
4	348	352	356	360	364
5	435	440	445	450	455
6	522	528	534	540	546
7	609	616	623	630	637
8	696	704	712	720	728
9	783	792	801	810	819
10	870	880	890	900	910
11	957	968	979	990	1001
12	1044	1056	1068	1080	1092
13	1131	1144	1157	1170	1183
14	1218	1232	1246	1260	1274
13	1305	1320	1335	1350	1365
16	1392	1408	1424	1440	1456
17	1479	1496	1513	1530	1547
18	1566	1584	1602	1620	1638
19	1653	1672	1691	1710	1729
20	1740	1760	1780	1800	1820
21	1827	1848	1869	1890	1911
22	1914	1936	1958	1980	2002
23	2001	2024	2047	2070	2093
24	2088	2112	2146	2160	2184
25	2175	2200	2225	2250	2275

	87	88	89	90	91
36	2262	2288	2314	2340	2366
37	2349	2376	2403	2430	2457
38	2436	2464	2552	2520	2548
39	2523	2552	2581	2610	2639
30	2610	2640	2670	2700	2730
31	2697	2728	2759	2790	2821
32	2784	2816	2848	2880	2912
33	2871	2904	2937	2970	3003
34	2958	2992	3026	3060	3094
35	3045	3080	3115	3150	3185
36	3132	3168	3204	3240	3276
37	3219	3256	3293	3330	3367
38	3306	3344	3382	3320	3458
39	3393	3432	3471	3510	3549
40	3480	3510	3560	3600	3640
41	3567	3608	3659	3690	3731
42	3654	3696	3738	3780	3822
43	3741	3784	3827	3870	3913
44	3828	3873	3916	3960	4004
45	3915	3960	4005	4050	4095
46	4002	4048	4094	4140	4186
47	4089	4136	4183	4239	4277
48	4176	4224	4272	4320	4368
49	4263	4212	4361	4410	4459
50	4350	4400	4450	4500	4550

	92	93	94	95	96
1	92	93	94	95	96
2	184	186	188	190	192
3	276	279	282	285	288
4	368	372	376	380	384
5	460	465	470	475	480
6	552	558	564	570	576
7	644	651	658	665	672
8	736	744	752	760	768
9	828	837	846	855	864
10	920	930	940	950	960
11	1012	1023	1034	1045	1056
12	1104	1116	1128	1140	1152
13	1196	1209	1222	1235	1248
14	1288	1302	1316	1330	1344
15	1380	1395	1410	1425	1440
16	1472	1488	1504	1520	1536
17	1564	1581	1598	1615	1632
18	1656	1674	1692	1710	1728
19	1748	1767	1786	1805	1824
20	1840	1860	1880	1900	1920
21	1932	1953	1974	1995	2016
22	2024	2046	2068	2090	2112
23	2116	2139	2162	2185	2208
24	2208	2232	2256	2280	2304
25	2300	2325	2350	2375	2400

	92	93	94	95	96
26	2392	2418	2444	2470	2496
27	2484	2511	2538	2565	2592
28	2576	2604	2632	2660	2688
29	2668	2697	2726	2755	2784
30	2760	2790	2820	2850	2880
31	2852	2883	2914	2945	2976
32	2944	2976	3008	3040	3072
33	3036	3069	3102	3135	3168
34	3128	3162	3196	3230	3264
35	3220	3255	3290	3325	3360
36	3312	3348	3384	3420	3456
37	3404	3441	3478	3515	3552
38	3496	3534	3572	3610	3648
39	3588	3627	3666	3705	3744
40	3680	3720	3760	3800	3840
41	3772	3813	3854	3895	3936
42	3864	3906	3948	3990	4032
43	3956	3999	4042	4085	4128
44	4048	4092	4136	4180	4224
45	4140	4185	4230	4275	4320
46	4232	4278	4324	4370	4416
47	4324	4371	4418	4465	4512
48	4416	4464	4512	4560	4608
49	4508	4557	4606	4655	4704
50	4600	4650	4700	4750	4800

	97	98	99	100
1	97	98	99	100
2	194	196	193	200
3	291	294	297	300
4	388	392	396	400
5	485	490	495	500
6	582	588	594	600
7	679	686	693	700
8	776	784	792	800
9	873	882	891	900
10	970	980	990	1000
11	1067	1078	1089	1100
12	1164	1176	1188	1200
13	1261	1274	1287	1300
14	1358	1372	1386	1400
15	1455	1470	1485	1500
16	1552	1568	1584	1600
17	1649	1666	1683	1700
18	1746	1764	1782	1800
19	1843	1862	1881	1900
20	1940	1960	1980	2000
21	2037	2058	2079	2100
22	2134	2156	2178	2200
23	2231	2254	2277	2300
24	2328	2352	2376	2400
25	2425	2450	2475	1500

	97	98	99	100
26	2522	2548	2574	2600
27	2619	3646	2673	2700
28	2716	2744	2772	2800
29	2813	2842	2871	2900
30	2910	2940	2970	3000
31	3007	3038	3069	3100
32	3104	3136	3168	3200
33	3201	3234	3267	3300
34	3298	3332	3366	3400
35	3395	3430	3465	3500
36	3491	3528	3564	3600
37	3585	3626	3663	3700
38	3686	3724	3762	3800
39	3783	3822	3861	3900
40	3880	3920	3960	4000
41	3977	4018	4059	4100
42	4074	4116	4158	4200
43	4171	4214	4257	4300
44	4265	4312	4356	4400
45	4365	4410	4455	4500
46	4462	4508	4554	4600
47	4559	4606	4653	4700
48	4656	4703	4752	4800
49	4753	4802	4851	4900
50	4850	4900	4950	5000

CHAP. II.

How to measure the Area, or Superficial content of plain Figures.

1.

Of the Triangle.

THough there be several sorts of Triangles, yet in respect they are all measured by the same Rule, I will therefore add but one Example for all; which take for a general Rule.

In all Right-lined Triangles whatsoever, HALF THE LENGTH OF THE BASE BEING MULTIPLIED BY THE LENGTH OF THE *PERPENDICULAR*; SHALL BE EQUAL TO THE *AREA*, OR CONTENT OF THE *TRIANGLE.*

Or

Or,

Half the length of the Perpendicular being multiplied in the length of the whole Base, shall be the Content of the Triangle.

Or again,

If you multiply the whole Perpendicular by the whole Base; half the Product shall be the Content of the Triangle.

Example.

Suppose you were to find the Area or Content of the Triangle S R Q. First from the Angle R you must let fall the Perpendicular R E let the length thereof be 24 Foot, and the length of the Base be 44 Foot.

Now

Now if you would multiply 12 (which is half the length of the Perpendicular) by 44 (the length of the whole Base) the Product will be 528 as before.

Or again,

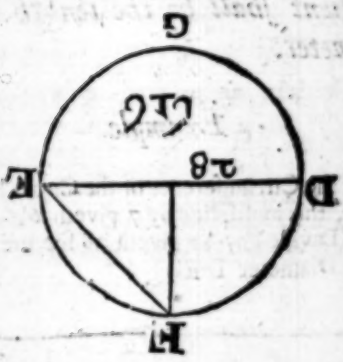
If you multiply 44 (the whole length of the Base) by 24 (the whole length of the Perpendicular the Product will be 1056, the half whereof is 528 the Area or Content of the Triangle as before.

II.

Of the Circle.

The Proportion of the Circumferance of any Circle is to his Diameter, as 27 to 22.

Now to find the Area or Content of any Circle, you must *Multiply the Diameter thereof in it self, and Multiply that Summ by* 11, *which Product being Divided by* 14 *shall give you the Area of the Circle.*



Example.

In the Circle D F E G Let the Diameter thereof D E be 28, which Multiplied in it self giveth 784, this number multiplied by 11 giveth 8624, which being divided by 14 the Quotient will be 616, and that is the Area of the Circle.

The Circumference of a Circle being given to find the Diameter.

Multiply the Circumference by 7 and

and divide the Product by 22 the Quotient shall be the length of the Diameter.

Example

Let the Circumference of the Circle D F E G be 88, this multiplied by 7 giveth 616, which being Divided by 22 giveth 28 for the length of the Diameter D E.

CHAP. 14.

The use of the Table of Accompts.

THE use of the following Table of Accompts ready cast up, are as followeth. First if you are to work upon any thing for which you are to be paid by the Measure as by the Foot, Yard, Perch, Rod, or Square, knowing what you are to have for one Foot, the Yard, Perch, Rod, or Square; the Table shews what any number of Feet, Yards, Perches, Rods, or Squares, do come to, at the same rate.

Example

Example 1.

If I take 1999 *Yard of Plaſtring at* 4 *pence* 3 *farthings the Yard, What will the whole coſt?*

Firſt ſeek what 1999 Groats comes to, and then what 1999 times 3 farthings comes unto, and add them together gives your deſire as in this Example.

		Lb.	S.	d.	
1000	4d. is	11	13	04	
900		15	00	00	
90		01	10	00	
9		00	03	00	
1000	3q. is	03	01	06	0
900		02	16	03	0
90		00	05	07	2
9		00	00	06	3
The Total is		39	11	03	1

Example 2.

If I buy a piece of Timber at 10 *pence the Foot, What ſhall I give for* 1000 *Foot?*

Firſt

First ſeek in the head of the Table for 10 d. and in the Margin for 1000, and in a Right-line under the 10 pence ſtands

lb.	s.	d.
41	13	4

the price of 1000 Foot.

Example 3.

If I have for a piece of work 5 *pounds* 10 *ſhillings* 10 *penee the Rod and have done* 600 *Rods,*

To work this you muſt multiply your 600 by 5 the number of the pounds, thus.

600
5
3000

Which come, to 3000 pound, and the 600 times 10 ſhillings is 300 pound, and for the pence look in the head of the Table for 10 pence, and in the Margin for 600, and in a direct line under 10 pence, ſtands 25 pound, ſo that the whole amounts to 3325. thus.

3000
300
25

3325

By this Table alſo you may readily reduce farthings or pence into pounds. So to do, you muſt ſuppoſe the firſt Column of numbers to be either Farthings or Pence.

As for Example.

If I deſire to know how much 1000 Farthings it, Firſt finde 1000 in the firſt Column, and under 19 you ſhall find

Lb.	s.	d.
1	0	10

your deſire. 1000 Half-pence is,

lb.	s.	d.
2	1	8

1000 Pence ſeek under the Table 1 Peny, and you will find it to be

lb.	s.	d.
4	3	4

1647 Pence makes by the Table, as followeth, in the next page.

		lb.	s.	d.
1000		4	3	4
600	is	2	10	0
40		0	3	4
7		0	0	7
The Total is.		6	17	3

1 Farthing

	1 Farthing.				2 Farthings			
	lb.	s.	d.	q.	lb.	s.	d,	q.
2000	2	1	8	0	4	3	4	0
1000	1	0	10	0	2	1	8	0
900	0	18	9	0	1	17	6	0
800	0	16	8	0	1	13	4	0
800	0	14	7	0	1	9	2	0
600	0	12	6	0	1	5	0	0
500	0	10	5	0	1	0	10	0
400	0	8	4	0	0	16	8	0
300	0	6	2	0	0	12	6	0
200	0	4	2	0	0	8	4	0
100	0	2	1	0	0	4	2	0
90	0	1	10	2	0	3	9	0
80	0	1	8	0	0	3	4	0
70	0	1	5	2	0	2	11	0
60	0	1	3	0	0	2	6	0
50	0	1	0	2	0	2	0	0
40	0	0	10	0	0	1	8	0
30	0	0	7	2	0	1	3	0
20	0	0	5	0	0	0	10	0
10	0	0	2	2	0	0	5	0
9	0	0	2	1	0	0	4	2
8	0	0	2	0	0	0	4	0
7	0	0	1	3	0	0	3	2
6	0	0	1	2	0	0	3	0
5	0	0	1	1	0	0	2	2
4	0	0	1	0	0	0	2	0
3	0	0	0	3	0	0	1	1
2	0	0	0	2	0	0	1	0
1	0	0	0	1	0	0	0	1

	3 Farthings				1 Peny.		
	lb.	s.	d.	q.	lb.	s.	d.
2000	6	5	0	0	8	6	8
1000	3	2	6	0	4	3	4
900	2	16	3	0	3	15	0
800	2	10	0	0	3	6	8
700	1	3	9	0	2	18	4
600	1	17	6	0	2	10	0
500	1	11	3	0	2	0	8
400	1	5	0	0	1	13	4
300	1	18	9	0	1	5	0
200	1	12	6	0	0	16	8
100	0	6	3	0	0	8	4
90	0	5	7	2	0	7	6
80	0	5	0	0	0	6	8
70	0	4	4	2	0	5	10
60	0	3	9	0	0	5	0
50	0	2	1	2	0	4	2
40	0	2	6	0	0	3	4
30	0	1	10	2	0	2	6
20	0	1	3	0	0	1	8
10	0	0	7	2	0	0	10
9	0	0	6	3	0	0	9
8	0	0	4	0	0	0	8
7	0	0	5	1	0	0	7
6	0	0	4	2	0	0	6
5	0	0	3	3	0	0	5
4	0	0	2	1	0	0	4
3	0	0	2	1	0	0	3
2	0	0	1	2	0	0	2
1	0	0	0	3	0	0	1

	2 Pence.			3 Pence		
	lb	s.	d.	lb.	s.	d.
2000	16	13	4	25	0	0
1000	8	6	8	12	10	0
900	7	10	0	11	5	0
800	6	13	4	10	0	0
700	5	16	8	8	15	0
600	4	0	6	7	10	0
500	3	3	4	6	5	0
400	2	6	8	5	0	0
300	1	10	0	3	15	0
200	0	13	4	2	10	0
100	0	16	8	1	5	0
90	0	15	0	1	2	6
80	0	13	4	1	0	0
70	0	11	8	0	17	6
60	0	10	0	0	15	0
50	0	8	4	0	12	6
40	0	6	8	0	10	0
30	0	5	0	0	7	6
20	0	3	4	0	5	0
10	0	1	8	0	2	6
9	0	1	6	0	2	3
8	0	1	4	0	2	0
7	0	1	2	0	1	9
6	0	1	0	0	1	6
5	0	0	10	0	1	0
4	0	0	8	0	1	0
3	0	0	6	0	0	1
2	0	0	4	0	0	6
1	0	0	2	0	0	3

	4 Pence.			5 Pence		
	lb	s.	d.	lb.	s.	d.
2000	33	6	8	41	13	4
1000	16	13	4	21	16	8
900	15	0	0	12	15	0
800	13	6	8	18	13	4
700	11	13	4	14	11	8
600	10	0	0	12	10	0
500	8	6	8	10	8	4
400	6	13	4	8	6	8
300	5	0	0	6	5	0
200	3	6	8	4	3	2
100	1	13	4	2	1	8
90	1	10	0	1	17	6
80	1	6	8	1	13	4
70	1	3	4	1	9	2
60	1	0	0	1	5	0
50	0	16	8	1	0	10
40	0	13	4	0	16	8
30	0	10	0	0	12	6
20	0	6	8	0	8	4
10	0	3	4	0	4	2
9	0	3	0	0	3	9
8	0	2	8	0	3	4
7	0	2	4	0	2	1
6	0	2	0	0	2	6
5	0	1	8	0	2	1
4	0	1	4	0	1	8
3	0	1	0	0	1	3
2	0	0	8	0	0	1
1	0	0	4	0	0	5

	6 Pence.			7 Pence.		
2000	50	0	0	58	6	8
1000	25	0	0	29	3	4
900	22	10	0	26	5	0
800	20	0	0	23	6	8
700	17	10	0	20	8	4
600	15	0	0	17	10	0
500	12	10	0	14	11	8
400	10	0	0	11	13	4
300	7	10	0	8	15	0
200	5	0	0	5	16	8
100	2	10	0	2	18	4
90	2	5	0	2	12	6
80	2	0	0	2	6	8
70	1	15	0	2	0	10
60	1	10	0	1	15	0
50	1	5	0	1	9	2
40	1	0	0	1	3	4
30	0	15	0	0	17	6
20	0	10	0	0	11	8
10	0	5	0	0	5	10
9	0	4	6	0	5	3
8	0	4	0	0	4	8
7	0	3	6	0	4	1
6	0	3	0	0	3	6
5	0	2	6	0	2	11
4	0	2	0	0	2	4
3	0	1	6	0	1	9
2	0	1	0	0	1	2
1	0	0	6	0	0	7

	8 pence.			9 pence.		
	lb.	s.	d.	lb.	s.	d.
2000	66	13	4	75	0	0
1000	33	6	8	37	10	0
900	30	0	0	33	15	0
800	26	13	4	30	0	0
700	23	6	8	26	5	0
600	20	0	0	22	10	0
500	16	13	4	18	15	0
400	13	6	8	15	0	0
300	10	0	0	11	5	0
200	6	13	4	7	10	0
100	3	6	8	3	15	0
90	3	0	0	3	7	6
80	2	13	4	3	0	0
70	2	6	8	2	12	6
60	2	0	0	2	5	0
50	1	13	4	1	17	6
40	1	6	8	1	10	0
30	1	0	0	1	2	6
20	0	13	4	0	15	0
10	0	6	8	0	7	6
9	0	6	0	0	6	9
8	0	5	4	0	6	0
7	0	4	8	0	5	3
6	0	4	0	0	4	6
5	0	3	4	0	3	9
4	0	2	8	0	3	0
3	0	2	0	0	2	3
2	0	1	4	0	1	6
1	0	0	8	0	0	9

	10 pence.			11 pence.		
	lb.	s.	d.	lb.	s.	d.
2000	83	6	8	91	13	4
1000	41	13	4	45	16	0
980	37	10	0	41	5	0
800	33	6	8	36	13	4
700	39	3	4	32	1	8
600	25	0	0	27	10	0
500	20	6	8	22	18	4
400	16	13	4	18	6	8
300	12	10	0	13	15	0
200	8	6	8	9	3	4
100	4	3	4	4	11	8
90	3	15	0	4	2	6
80	3	6	8	3	13	4
70	2	8	4	3	4	2
60	2	10	0	2	15	0
50	2	1	8	2	5	10
40	1	13	4	2	16	8
30	1	5	0	1	7	6
20	0	16	8	0	18	4
10	0	8	4	0	9	2
9	0	7	6	0	8	3
8	0	6	8	0	7	4
7	0	5	10	0	6	5
6	0	5	0	0	5	6
5	0	4	2	0	4	7
4	0	3	4	0	3	2
3	0	2	6	0	2	9
2	0	1	8	0	1	10
1	0	0	10	0	0	1

	12 pence.	
	lb.	s.
2000	100	0
1000	50	0
900	45	0
800	40	0
700	35	0
600	30	0
500	25	0
400	20	0
300	15	0
200	10	0
100	5	0
90	4	10
80	4	0
70	3	10
60	3	0
50	2	10
40	2	0
30	1	10
20	1	0
10	0	10
9	0	9
8	0	8
7	0	7
6	0	6
5	0	5
4	0	4
3	0	3
2	0	2
1	0	1

CHAP. 15.

The use of the ensuing Table doth shew you from 3 pence to 5 shillings (and so by duplicating your price may serve to 5 pound, or 10 pound or higher if you please) the price of a Yard of Plastering, Rod of Brick-work, or Square of Tiling.

IN the First Colume on the left hand on the head of the Column is s. for shillings, d. for pence, and q. for farthings: and it doth begin at 3 pence the 100. Foot, by which 100 Foot is meant either 1 yard of Plastering, or one Rod of Brick-work, or one Square of Tiling; and in the other Column towards the right hand is the price of 1 Foot, 2 Foot, 3 Foot, 4 Foot, 5 Foot, &c. unto 80 foot according to the same rates, as is in the first Column; the other Columns on the right hand still encreasing in the same proportion as the first Column on the left hand.

Example.

Suppose you have 10 pound for one Rod of Brick-work, and you would know what one foot is worth at the same rate.

First, Look in the first Column on the left hand for 50 s. and then look on the head of the Column for one foot price, and in the same Column under 1 Foot price in a direct line, just against 50 shillings for the 100 Foot or 1 Rod price, you will find 6 pence, which 50 shillings is the fourth part of 10 pound the Rod, then quadruple your 6 pence which makes 2 shillings the price of one foot of Brick-work at 10 pound the Rod,

Example 3.

Suppose you have 5 pound 10 shillings 5 pence for one Rod of Brick-work, and you would know what one Foot comes unto.

Look under the first Column for 50 shillings and

and then by adding the numbers together brings 5 pound, and further you are to look in the first Column for 10 shillings; and in a direct line from 50 you will find 6 pence one Foot price; and then by adding the two numbers together brings 1 shilling, and further by looking in a direct line in the first Column against 10 shillings 5 pence, you may find that one peny farthing added to 12 pence makes 13 pence farthing your desire.

Example 3.

Would you know what the Inches come unto.

Then, Look in the head of the first Column of the Table for 12 pence half-peny, that being the neareſt you can find to 13 pence farthing, and in a direct Line under, *One Foot price* you will find half a Farthing, that being the price of one Inch, your desire.

Example 4.

Suppose the price of 100 *Foot comes unto* 28 *ſhillings* 1 *peny half-peny, then what will the price of* 60 *Foot come to?*

Look in the head of the Table for the number 20 and 40 which added makes 60, and in a direct line from 28 ſhillings 1 peny ½ half peny, under 20 you will find 5 ſhillings 7 pence 2 farthings; and from thence in a direct line under 40 you will find 11 ſhillings 3 pence.

Example 4.

Suppose you have 2 *ſhillings and* 1 *peny for a Perch of work,*

Look in the head of the Table for 10 Foot, that being the number of Feet in a Perch. Then if you would know what 3 Foot comes unto, caſt your eye perpendicularly in the ſame Column for 2 ſhillings and 1 peny, and ſo from thence in a direct line under the Column of

3 *Foot price* you will find 7 pence 2 farthings, your desire.

Example 5.

Would you know, or suppose you have 4 Pence 2 Farthings for a Yard of Work what will 2 Foot come unto?

Look under the Column of 9, for your 4 pence 2 farthings; and in a direct Line under 2 Foot you will find 1 peny, your desire.

A

TABLE

OF

The Price

OF

BRICK-WORK,

OR

TILING

Fractionally Demonſtrated.

100 Foot price.			1 Foot price.			2 Foot price.		
s.	d	q.	s. lb.	d. s.	q. d.	s. lb.	d. s.	q d.
0	3	0	0	0	1/8	0	0	1/4
0	6	0	0	0	1/4	0	0	1/2
0	9	0	0	0	3/8	0	0	3/4
1	0	0	0	0	1/2	0	0	1
2	1	0	0	0	1	0	0	2
3	1	2	0	0	1 1/2	0	0	3
4	2	0	0	0	2	0	1	0
5	2	2	0	0	2 1/2	0	1	1
6	3	0	0	0	3	0	1	2
7	3	2	0	0	3 1/2	0	1	3
8	4	0	0	1	0	0	2	0
9	4	2	0	1	1/2	0	2	1
10	5	0	0	1	1	0	2	2
11	5	2	0	1	1 1/2	0	2	3
12	6	0	0	1	2	0	3	0
13	6	2	0	1	2 1/2	0	3	1
14	7	0	0	1	3	0	3	2
15	7	2	0	1	3 1/2	0	3	3
16	8	0	0	2	0	0	4	0
17	8	2	0	2	1/2	0	4	1
18	9	0	0	2	1	0	4	2
19	9	2	0	2	1 1/2	0	4	3
20	10	0	0	2	2	0	5	0
21	10	2	0	2	2 1/2	0	5	1
22	11	0	0	2	3	0	5	2
23	11	2	0	2	3 1/2	0	5	3

100 Foot price.			1 Foot price.			2 Foot price.		
s.	d.	q.	s.	d.	q.	s.	d.	q.
25	0	0	0	3	0	0	6	0
26	0	2	0	3	0 1/2	0	6	1
27	1	0	0	3	1	0	6	2
28	1	2	0	3	1 1/2	0	6	3
29	2	0	0	3	2	0	7	0
30	2	2	0	3	2 1/2	0	7	1
31	3	0	0	3	3	0	7	2
32	3	2	0	3	3 1/2	0	7	3
33	4	0	0	4	0	0	8	0
34	4	2	0	4	0 1/2	0	8	1
35	5	0	0	4	1	0	8	2
36	5	2	0	4	1 1/2	0	8	3
37	6	0	0	4	2	0	9	0
38	6	2	0	4	2 1/2	0	9	1
39	7	0	0	4	3	0	9	2
40	7	2	0	4	3 1/2	0	9	3
41	8	0	0	5	0	0	10	0
42	8	2	0	5	0 1/2	0	10	1
43	9	0	0	5	1	0	10	2
44	9	2	0	5	1 1/2	0	10	3
45	10	0	0	5	2	0	11	0
46	10	2	0	5	2 1/2	0	11	1
47	11	0	0	5	3	0	11	2
48	11	2	0	5	3 1/2	0	11	3
50	0	0	0	6	0	0	10	0

100 Foot price.			3 Foot price.			4 Foot price.		
s.	d.	q.	s.	d.	q.	s.	d.	q.
0	3	0	0	0	$\frac{1}{2}$	0	0	$0\frac{1}{2}$
0	6	0	0	0	$\frac{3}{4}$	0	0	1
0	9	0	0	0	1	0	1	$1\frac{1}{2}$
1	0	2	0	0	$1\frac{1}{2}$	0	1	2
2	1	0	0	0	3	0	1	0
2	1	2	0	1	$\frac{1}{2}$	0	1	2
3	2	0	0	1	2	0	2	0
3	2	2	0	1	$3\frac{1}{2}$	0	2	2
4	3	0	0	2	$1\frac{1}{2}$	0	3	0
4	3	2	0	2	$2\frac{1}{2}$	0	3	2
5	4	0	0	3	0	0	4	0
5	4	2	0	3	$1\frac{1}{2}$	0	4	2
6	5	0	0	3	3	0	5	0
6	5	2	0	4	$\frac{1}{2}$	0	5	2
7	6	0	0	4	2	0	6	0
7	6	2	0	4	$2\frac{1}{2}$	0	6	2
8	7	0	0	5	0	0	7	0
8	7	2	0	5	$2\frac{1}{2}$	0	7	2
9	8	0	0	6	0	0	8	0
9	8	2	0	6	$1\frac{1}{2}$	0	8	2
10	9	0	0	6	3	0	9	0
10	9	2	0	7	$\frac{1}{2}$	0	9	2
11	10	0	0	7	2	0	10	0
11	10	2	0	7	$3\frac{1}{2}$	0	10	2
12	11	0	0	8	1	0	11	0
13	11	2	0	8	$2\frac{1}{2}$	0	11	2

100 Foot price.			3 Foot price.			4 Foot price.		
ps.	s.	d. q.	ps.	d.	q.	ps.	d.	q.
25	00	0	0	9	0	0	0	0
26	00	2	0	9	1½	0	0	2
27	01	0	0	9	3	0	1	0
28	01	2	0	10	0½	0	1	2
29	02	0	0	10	2	0	2	0
30	02	2	0	10	3½	0	2	2
31	03	0	0	11	1	0	3	0
32	03	2	0	11	2½	0	3	2
33	04	0	1	0	0	0	4	0
34	04	2	1	0	1½	0	4	2
35	05	0	1	0	3	1	5	0
36	05	2	1	1	0½	1	5	2
37	06	0	1	1	2	1	6	0
38	06	2	1	1	3½	1	6	2
39	07	0	1	2	1	1	7	0
40	07	2	1	2	2½	1	7	2
41	08	0	1	3	0	1	8	0
42	08	2	1	3	1½	1	8	2
43	09	0	1	3	3	1	9	0
44	09	2	1	4	0½	1	9	2
45	10	0	1	4	2	1	10	0
46	10	2	1	4	3½	1	10	2
47	11	0	1	5	1	1	11	0
48	11	2	1	5	2½	1	11	2
50	00	0	1	6	0	2	00	0

100 Foot price.			50 Foot price.			60 Foot price.		
£.	s.	d.	£.	s.	d.	£.	s.	d.
0	3	0	0	0	1½	0	0	2½
0	6	0	0	0	3	0	0	5
0	9	0	0	0	4½	0	0	7½
0	10	2	0	0	5½	0	0	9¼
1	0	2	0	0	6½	0	0	11
2	1	0	0	1	1	0	1	2
3	1	2	0	1	3½	0	2	1
4	2	0	0	2	2	0	3	0
5	2	2	0	2	4½	0	3	3
6	3	0	0	3	3	0	4	2
7	3	2	0	4	1½	0	5	1
8	4	0	0	5	0	0	6	0
9	4	2	0	5	2½	0	6	3
10	5	0	0	6	1	0	8	2
11	5	2	0	6	3½	0	8	1
12	6	0	0	7	2	0	9	0
13	6	12	0	8	½	0	9	3
14	7	0	0	8	3	0	10	2
15	7	12	0	9	1½	0	11	1
16	8	10	0	10	0	1	0	0
17	8	12	0	10	2½	1	0	3
18	9	10	0	11	1	1	1	2
19	9	12	0	11	2½	1	2	1
20	10	10	1	0	2	1	3	0
21	10	12	1	1	½	1	3	3
22	11	10	1	1	3	1	4	2
23	11	2	0	2	1½	1	5	1

100 Foot price.			5 Foot price.			6 Foot price.		
s.	d.	q.	s.	d.	q.	s.	d.	q.
25	10	0	1	3	0	1	6	0
26	10	2	1	3	2 1/2	1	6	3
27	11	0	1	4	1	1	7	2
28	11	2	1	4	2 1/2	1	8	1
29	12	0	1	5	2	1	9	0
30	12	2	1	6	0 2/3	1	9	3
31	13	0	1	6	3	1	10	2
32	13	2	1	7	1 1/2	1	11	1
33	14	0	1	8	0	2	0	0
34	14	2	1	8	2 1/2	2	0	3
35	15	0	1	9	1	2	1	2
36	15	2	1	9	3 1/2	2	2	1
37	16	0	1	10	2	2	3	0
38	16	2	1	11	0 2/3	2	3	3
39	17	0	1	11	3	2	4	2
40	17	2	2	0	1 1/2	2	5	1
41	18	0	2	1	0	2	6	0
42	18	2	2	1	2 2/3	2	6	3
43	19	0	2	2	1	2	7	2
44	19	2	2	2	3 1/2	2	8	1
45	20	0	2	3	2	2	9	0
46	20	2	2	4	0 1/2	2	9	3
47	21	0	2	4	3	2	10	2
48	21	2	2	5	1 1/2	2	11	1
50	22	0	2	6	0	3	0	0

100 Foot price.			7 Foot price.		
s.	d.	p.	s.	d.	q.
0	3	0	0	0	$0\frac{3}{5}$
0	6	0	0	1	$1\frac{1}{5}$
0	9	0	0	1	$2\frac{1}{5}$
1	0	2	0	0	$3\frac{4}{5}$
2	1	0	0	1	3
3	1	2	0	2	$2\frac{2}{5}$
4	2	0	0	3	2
5	2	2	0	3	$1\frac{2}{5}$
6	3	0	0	4	1
7	3	2	0	5	$0\frac{2}{5}$
8	4	0	0	6	0
9	4	2	0	7	$3\frac{2}{5}$
10	5	0	0	7	3
11	5	2	0	8	$2\frac{4}{5}$
12	6	0	0	9	2
13	6	2	0	10	$1\frac{4}{5}$
14	7	0	1	11	1
15	7	2	1	0	$0\frac{4}{5}$
16	8	0	1	1	0
17	8	2	1	2	$3\frac{1}{5}$
18	9	0	1	3	3
19	9	2	1	4	$2\frac{1}{5}$
20	10	0	1	5	2
21	10	2	1	6	$1\frac{1}{5}$
22	11	0	1	7	1
23	11	2	1	8	$0\frac{1}{5}$

180 Foot price.			7 Foot price.		
s.	d.	q.	s.	d.	q.
25	0	0	6	9	0
26	0	2	6	9	3
27	1	0	6	10	3
28	1	2	6	11	2
29	2	0	6	0	2
30	2	2	6	1	1
31	3	0	6	2	1
32	3	2	6	3	0
33	4	0	6	4	0
34	4	2	6	4	3
35	5	0	6	5	3
36	5	2	6	6	2
37	6	0	6	7	2
38	6	2	6	8	1
39	7	0	6	9	1
40	7	2	6	10	0
41	8	0	6	11	0
42	8	2	6	11	3
43	9	0	7	0	3
44	9	2	7	1	2
45	10	0	7	2	2
46	10	2	7	3	1
47	11	0	7	4	1
48	11	2	7	5	0
50	0	0	7	6	0

100 Foot price.			8 Foot price.			9 Foot price.		
s.	d.	q.	s.	d.	q.	s.	d.	q.
0	3	0	0	0	1	0	0	1½
0	6	0	0	0	2	0	0	2¼
0	9	0	0	0	3	0	0	3½
1	0	2	0	1	0	0	1	½
2	1	0	0	2	0	0	2	0
3	1	2	0	3	0	0	3	0
4	2	0	0	4	0	0	4	0
5	2	2	0	5	0	0	5	0
6	3	0	0	6	0	0	6	0
7	3	2	0	7	0	0	7	0
8	4	0	0	8	0	0	9	0
9	4	2	0	9	0	0	10	0
10	5	0	0	10	0	0	11	0
11	5	2	0	11	1	1	0	0
12	6	0	1	0	0	1	1	0
13	6	2	1	1	0	1	2	0
14	7	0	1	2	0	1	3	0
15	7	2	1	3	0	1	4	0
16	8	0	1	4	0	1	6	0
17	8	2	1	5	0	1	7	0
18	9	0	1	6	0	1	8	0
19	9	2	1	7	0	1	9	0
20	10	0	1	8	0	1	10	0
21	10	2	1	9	0	1	11	0
22	11	0	1	10	0	2	0	0
23	11	2	1	11	0	2	1	0

100 Foot price.			8 Foot price.			9 Foot price.		
s.	d.	q.	s.	d.	q.	s.	d.	q.
25	0	0	2	0	0	2	3	0
26	0	2	2	1	1	2	4	0 2/3
27	1	0	2	2	2	2	5	1
28	1	2	2	3	3	2	6	1 1/3
29	2	0	2	4	0	2	7	2
30	2	2	2	5	1	2	8	2 1/3
31	3	0	2	6	2	2	9	3
32	3	2	2	7	3	2	10	3 1/3
33	4	0	2	8	0	3	0	0
34	4	2	2	9	1	3	1	0 2/3
35	5	0	3	10	2	3	2	1
36	5	2	3	11	3	3	3	1 1/3
37	6	0	3	0	0	3	4	2
38	6	2	3	1	1	3	5	2 1/3
39	7	0	3	2	2	3	6	3
40	7	2	3	3	3	3	7	3 1/3
41	8	0	3	4	0	3	8	0
42	8	2	3	5	1	3	9	0 2/3
43	9	0	3	6	2	3	10	1
44	9	2	3	7	3	4	0	1 1/3
45	10	0	3	8	0	4	1	2
46	10	2	3	9	1	4	2	2 1/3
47	11	0	3	10	2	4	3	3
48	11	2	3	11	3	4	4	3 1/3
50	0	0	4	0	0	4	6	0

100 Foot price.			10 Foot price.			20 Foot price.		
s.	d.	q.	s.	d.	q.	s.	d.	q.
0	3	0	0	0	1 1/10	0	0	2 2/5
0	6	0	0	0	2 2/5	0	1	0
0	9	0	0	0	3 3/4	0	1	3 1/2
1	0	2	0	1	1	0	2	2
2	1	0	0	2	2	0	5	0
3	1	2	0	3	3	0	7	2
4	2	0	0	5	0	0	10	0
5	2	2	0	6	1	1	0	2
6	3	0	0	7	2	1	3	0
7	3	2	0	8	3	1	5	2
8	4	0	0	10	0	1	8	0
9	4	2	0	11	1	1	10	2
10	5	0	1	0	2	2	1	0
11	5	2	1	1	3	2	3	2
12	6	0	1	3	0	2	6	0
13	6	2	1	4	1	2	8	2
14	7	0	1	5	2	2	11	0
15	7	2	1	6	3	3	1	2
16	8	0	1	8	0	3	4	0
17	8	2	1	9	1	3	6	2
18	9	0	1	10	2	3	9	0
19	9	2	1	11	3	3	11	2
20	10	0	2	1	0	4	2	0
21	10	2	2	2	1	4	4	2
22	11	0	2	3	2	4	7	0
23	11	2	2	4	3	4	9	2

100 Foot price.			10 Foot price.			10 Foot price.		
s.	d.	q.	s.	d.	q.	s.	d.	q.
25	0	0	2	6	0	5	00	0
26	0	2	2	7	1	5	02	2
27	1	0	2	8	2	5	05	0
28	1	2	2	9	3	5	07	2
29	2	0	2	11	0	5	10	0
30	2	2	3	0	1	6	00	2
31	3	0	3	1	2	6	03	0
32	3	2	3	2	3	6	05	2
33	4	0	3	4	0	6	08	0
34	4	2	3	5	1	6	10	2
35	5	0	3	6	2	7	01	0
36	5	2	3	7	3	7	03	2
37	6	0	3	9	0	7	06	0
38	6	2	3	10	1	7	08	2
39	7	0	3	11	2	7	11	0
40	7	2	4	0	3	8	01	2
41	8	0	4	2	0	8	04	0
42	8	2	4	3	1	8	06	2
43	9	0	4	4	2	8	09	0
44	9	2	4	5	3	8	11	2
45	10	0	4	7	0	9	02	0
46	10	2	4	8	1	9	04	2
47	11	0	4	9	2	9	07	0
48	11	2	4	10	3	9	09	2
50	0	0	5	0	0	10	00	0

100 Foot price.			40 Foot price.		
s.	d.	q.	s.	d.	q.
0	3	0	0	1	1
0	6	0	0	2	2
0	9	0	0	3	3
1	0	2	0	5	0
2	1	2	1	0	0
3	1	2	1	5	0
4	2	0	1	8	0
5	2	2	2	1	0
6	3	0	2	6	0
7	3	2	2	11	0
8	4	0	3	4	0
9	4	2	3	9	0
10	5	0	4	2	0
11	5	2	4	7	0
12	6	0	5	0	0
13	6	2	5	5	0
14	7	0	5	10	0
15	7	2	6	3	0
16	8	0	6	8	0
17	8	2	7	1	0
18	9	0	7	6	0
19	9	2	7	11	0
20	10	0	8	4	0
21	10	2	8	9	0
22	11	0	9	2	0
23	11	2	9	7	0

100 Foot price.			40 Foot price.		
s.	d.	q.	s.	d.	q.
25	0	0	10	0	0
26	0	2	10	5	0
27	1	0	10	10	0
28	1	2	11	3	0
29	2	0	11	8	0
30	2	2	12	1	0
31	3	0	12	6	0
32	3	2	13	1	0
33	4	0	13	14	0
34	4	2	13	9	0
35	5	0	14	2	0
36	5	2	14	7	0
37	6	0	15	0	0
38	6	2	15	5	0
39	7	0	15	10	0
40	7	2	16	3	0
41	8	0	16	8	0
42	8	2	17	1	0
43	9	0	17	6	0
44	9	2	17	11	0
45	10	0	18	4	0
46	10	2	18	9	0
47	11	0	19	2	0
48	11	2	19	7	0
50	0	0	20	0	0

100 Foot price.			80 Foot price.		
s.	d.	q.	s.	d.	q.
0	3	0	0	2	2
0	6	0	0	5	0
0	9	0	0	7	2
1	0	2	0	10	1
1	1	0	1	8	0
1	1	2	2	6	0
2	2	0	3	4	0
2	2	2	4	2	0
3	3	0	5	0	0
3	3	2	5	10	0
4	4	0	6	8	0
4	4	2	7	6	0
5	5	0	8	4	0
5	5	2	9	2	0
6	6	0	10	0	0
6	6	2	10	10	0
7	7	0	11	8	0
7	7	2	12	6	0
8	8	0	13	4	0
8	8	2	14	2	0
9	9	0	15	0	0
9	9	2	15	10	0
10	10	0	16	8	0
10	10	2	17	6	0
11	11	0	18	4	0
11	11	2	19	2	0

100 Foot price.			80 Foot price.		
s.	d.	q.	s.	d.	q.
25	0	0	20	0	0
26	0	2	20	10	0
27	1	0	21	8	0
28	1	2	22	6	0
29	2	0	23	4	0
30	2	2	24	2	0
31	3	0	25	0	0
32	3	2	25	10	0
33	4	0	26	8	0
34	4	2	27	6	0
35	5	0	28	4	0
36	5	2	29	2	0
37	6	0	30	0	0
38	6	2	30	10	0
39	7	0	31	8	0
40	7	2	32	6	0
41	8	0	33	4	0
42	8	2	34	2	0
43	9	0	35	0	0
44	9	2	35	10	0
45	10	0	36	8	0
46	10	2	37	6	0
47	11	0	38	4	0
48	11	2	39	2	0
50	0	0	40	0	0

FINIS.